



RICK SNYDER
GOVERNOR

State of Michigan
STATE 911 COMMITTEE
LANSING

JEFF TROYER
CHAIR

Testimony of April Heinze, ENP, CMCP
State 911 Committee, Vice Chair
SB400
January 16, 2018

Chairperson Hoitenga, Vice-Chairperson Griffin, and committee members, my name is April Heinze. I am the Vice-Chair of the State 911 Committee. I am joined today by Jeff Troyer, the State 911 Committee Chair and Sgt. Matt Williams of the Michigan State Police. I'd like to thank you for the opportunity to be here today to share a brief history of Michigan's 911 technology with you. I will also cover what's needed to roll out NG911 statewide.

I'll begin with a brief explanation of the technology used today to deliver 911 calls to Public Safety Answering Points, also known as PSAPs. Then I will explain what NG911 is, and what it does. In 1962, telephone callers for the first time could directly dial long distance without assistance of an operator. New technology, known as Centralized Automatic Message Accounting (commonly called CAMA) made it possible to send a small amount of data (the calling party's telephone numbers) along with voice.

In 1967, the Federal government designated 911 as the 3-digit emergency number. Basic 911 as it was known, didn't even provide the caller's phone number. In the 1980's, the re-use of CAMA technology for the purposes of 911 allowed ANI – automatic number information, which provided the callers telephone number, and ALI - automatic location information, which provided the caller's physical address. This CAMA technology from 1962 became the core of Enhanced 911 (E911).

In the early 90's wireless devices - first car phones and later handsets, became popular. Initially, those devices did not have access to 911. As more and more Americans began to use them, the FCC determined that wireless phones must be able to place a call to 911.

The technology to do this was not perfect. It was retrofitted into that same CAMA technology from 1962. Workarounds and 'interim systems' had to be created to allow these 911 calls to reach Public Safety Answering Points. Those retrofits from the late 90s are still in place today and while they have saved countless lives, technology has moved beyond them.

In 2000, the first smartphone hit the marketplace and they have grown exponentially from there. Smartphones today can do dozens of tasks and many of them simultaneously. These devices have the capability to pinpoint the location of the handset and use that capability for services such as Uber. Yet, we are still using CAMA technology for 911 call delivery that can only send small amounts of data along with the voice. Today, 911 is more

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than just a call from a wall phone in the kitchen or a wireless phone. Calls also come from Voice Over IP or digital voice providers (like Charter Spectrum or Comcast) and even directly from cars and trucks, a method known as 'Telematics'.

So, what is the path to move forward? The industry has created Next Generation 911, which we call NG911. As defined by the National Emergency Number Association's (NENA), the i3 standard, NG911 has these three main components:

1. An internet protocol (IP) based network that forms an Emergency Services IP Network (ESInet);
2. Functional Elements, that are specialized types of software applications, and finally,
3. Databases that replicate and extend traditional Enhanced 911 (E911) services.

What does this mean? NG911 is a public safety grade system that connects with other 911 systems from other providers, regions and states. It allows various different applications, not just voice, but data rich text, pictures, video, and telematics crash information from vehicle manufacturers like General Motor's OnStar and Ford's 911 Assist. NG911, like the internet itself, is expandable for future technologies.

Why is this so important? The biggest reason is the public's expectation. The public expects that they can communicate with 911 from any device using voice, text, video and pictures, anywhere, anytime. They expect when they make a 911 call, the call taker will know exactly where they're at, just like Uber or Domino's Pizza. Unfortunately, the 911 network used today for the majority of Michigan is still using technology that was 'new' in 1962.

Just over three years ago, the Upper Peninsula, at a time when the state economy was not as strong as it is today, demanded better efficiency within their 911 network as a cost savings measure. Local 911 centers responded with a consolidation of service. A region wide fiber network was leveraged to create large scale sharing of an NG911 network, call processing equipment and computer aided dispatch equipment. They effectively migrated to NG911 out of necessity.

As a result of their success, additional 911 centers formed regions, sharing a common interest. They began to duplicate the success of the UP. These PSAPs have increased their capabilities to serve the public and have increased 911 survivability, redundancy, the ability to transfer calls and have better interoperability.

As new services used by the public enter the marketplace, the funding model needs an update, and it needs to be as well designed as the original legislation. There needs to be a stable source of funding so that next generation emergency services are provided at the state level. We need legislation that will allow it. It is imperative that we move all of Michigan's 911 network beyond the limits of 55 year old technology. This is more than just a technology upgrade, it is needed maintenance on a vital piece of Michigan's public safety infrastructure.

I thank you for allowing me to share this brief history of 911 technology and what NG911 will do to help the citizens of the State of Michigan.

RICK SNYDER
GOVERNOR



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Jeff Troyer – Chairman, State 9-1-1 Committee
January 16, 2018 – House Communication and Technology Committee
Senate Bill 400 Testimony

Good Afternoon Chairperson Hoytenga, Vice-Chairperson Griffin and committee members - my name is Jeff Troyer, Executive Director for Kalamazoo County Consolidated Dispatch Authority and Chairman of the State 9-1-1 Committee. On behalf of the State 9-1-1 Committee, I want to thank you for allowing us this opportunity. In addition, I'd like to express a heartfelt thanks to Senator Jones for introducing a bill reflective of the State 9-1-1 Committee's recommendations.

Many people ask why these legislative changes are necessary so please allow me to start by providing a few brief examples. It is very unfortunate that we as Michiganders have experienced several events over the past few years that spanned across multiple jurisdictions. One in particular that I am very familiar with is the mass shooting incident involving an Uber driver throughout Kalamazoo County. Events like this along with the public's expectations demonstrate the need for a robust 9-1-1 system with greater capabilities than the legacy network can provide. The most critical needs for our 9-1-1 centers across the State is greater location accuracy when individuals access the 9-1-1 system using wireless devices. It is essential that our 9-1-1 centers have the ability to locate an injured driver of an automobile crash who is disoriented and has no idea where they are....or, an individual having a heart attack who is unable to provide their address because they can't catch their breath. Our residents and visitors of this great State EXPECT our 9-1-1 Centers to have this capability. After all, Uber and Hungry Howie's can do it – So why can't 9-1-1? This Committee has the opportunity to change this. An IP Next Generation 9-1-1 Network will provide a robust and redundant digital 9-1-1 system with increased reliability, flexibility, and accuracy. This is not a want or a desire but rather essential infrastructure for protecting lives and property in an ever-changing mobile and complex communications environment.

I want to take advantage of my limited time to discuss the key aspects or fundamental changes Senate Bill 400 has on Public Act 32 of 1986 as amended, in order to accomplish adequate funding for Next Generation 9-1-1:

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Senate Bill 400 increases the State 9-1-1 Surcharge from \$.19 to \$.25.

Some individuals think this is a significant increase but actually, the State of Michigan has the third lowest State 9-1-1 Surcharge in the Country. If our State surcharge increases to \$.25, we will still be the fourth lowest in the United States.

In addition, 19 cents has been our State 9-1-1 Surcharge since 2008. If you factor in inflation from 2008 to present, the state surcharge would be \$.22. Therefore, the proposal is a "real increase" of \$.03. The State 911 Committee has been transparent and accountable to the Michigan Legislature in its role over the State 911 funding mechanism. Our Annual Report to the Legislature is comprehensive and timely, our compliance review process is objective, thorough, and respected, and our efforts to ensure 911 money is used strictly for 911 are proactive and successful.

The bill adjusts the amount collected by retailers for prepaid services from 1.92% to 5% to create equity among prepaid and postpaid services.

This adjustment utilizes public information included in an annual report released by the Federal Communications Commission to accurately calculate this percentage on a bi-annual basis. A significant number of service users over the last few years have transitioned from postpaid to prepaid services. When this occurs, an adjustment must be made in order to ensure equity between prepaid and postpaid customers. The factoring system used for the prepaid 911 support is over a decade old. The new rate which is based on a state-wide average, is more equitable, and will remain stable until it can be re-valuated for the sunset date in 2021.

It is these first TWO items – The State surcharge increase and the equitable percentage adjustment for prepaid services – that will provide sufficient funding for the existing legacy 9-1-1 network and allow PSAPs to continue the migration from the legacy system to an IP based Next Generation 9-1-1 network.

In addition to the two items above, there are three additional key aspects to this bill:

First, the proposed legislation establishes oversight by creating a process for NG9-1-1 service providers to submit bills through the Michigan Public Service Commission (the MPSC). The process will require review and approval of payment for IP-based NG9-1-1 network costs that meet standards for redundancy, security, and reliability.

Second, Senate Bill 400 provides provisions to ensure 9-1-1 fees are properly collected and remitted by service providers.

It is already the State 9-1-1 Committee's statutory responsibility to track communications service providers and maintain a list for notification of local 9-1-1 fee changes. Under new language in this bill, the State 9-1-1 Committee is tasked with bringing non-payment issues to the Public Service Commission for review and if necessary, forwarded to the Attorney General to take the appropriate actions against service providers whom are not collecting or remitting 9-1-1 fees.

The last major aspect of Senate Bill 400 I want to elaborate on is an increase to the maximum permissible local 9-1-1 fee that can be assessed by County Board of Commissioner resolution. The proposed legislation increases this amount from 42 cents to 48 cents.

Much like the State 9-1-1 surcharge, 42 cents has been the maximum amount since 2008. The State 9-1-1 Committee recommends this increase for one primary reason – While the State prepaid and postpaid surcharge increase that we already discussed will provide funding for the network, those monies do not cover the costs local units of government will have to upgrade their 9-1-1 call-taking equipment so it is CAPABLE of receiving data from the new IP Next Generation 9-1-1 network. This key component provides the County Board of Commissioners, whom are all locally elected, a mechanism to replace or upgrade their Public Safety Answering Point equipment in order to take full advantage of the capabilities of the IP Next Generation 9-1-1 Network.

In closing, I am very hopeful that we can all agree that our State's 9-1-1 Network is one of the most CRITICAL infrastructures in our State. Unfortunately, it was designed decades ago specifically for hard-wired telephones; not for digital technologies nor wireless or mobile devices. Our legacy system uses copper lines and call routing equipment that are based on technology that was developed in 1962. This bill and this Committee has the opportunity to change that. The State 9-1-1 Committee fully supports Senate Bill 400 and it is our recommendation to this Committee that the time is NOW to act and upgrade this CRITICAL Infrastructure.

Once again, thank you for this opportunity; it is greatly appreciate. At this time, I'd like to introduce Sgt. Matt Williams of the Michigan State Police.



STATE OF MICHIGAN

DEPARTMENT OF STATE POLICE
LANSING

RICK SNYDER
GOVERNOR

COL. KRISTE KIBBEY ETUE
DIRECTOR

Sgt. Matthew Williams

House Communications and Technology Committee – January 16, 2018

Location Accuracy

NG911 will be able to take advantage of enhanced location accuracy services that can be available on wireless devices. As a member of the first responder community, I can tell you that the data we receive about the location of an incident is critical. Whether you have a lost hunter in the woods in a remote area of the Upper Peninsula, a multi-car accident on the freeway in one of our metropolitan areas, or a motorist who has slid into a drainage ditch in the rural farmland of the Lower Peninsula – location can mean the difference between getting there in time to save a life, or a life lost caused by the delay in our ability to reach the correct location.

Transferability

Communications technology today is more mobile than ever! Calls to 911 can be placed on portable systems like handheld Smartphones, Voice Over Internet Protocol phones, and tablets working off an internet connection. Those calls are placed by an active and mobile society.

The current 911 system was built when landlines were the reigning technology and most 911 calls occurred within a limited geographical area. Transferring originally needed to occur with only an adjacent city or county. Now, 911 calls for help can come from jurisdictions farther away. For example, Shanell Anderson in Georgia, drowned after accidentally driving in a pond while delivering newspapers in the early morning hours of Christmas Eve in 2014. Her 911 cell call was routed to a tower in another jurisdiction, and the location information and transfer capability were limited.

Our dispatch centers in Michigan work tirelessly to locate, relay, and communicate this information in an effort to bridge these gaps. A system which allows for the rapid and seamless transfer of 911 calls will not only save time, it will save lives.

Critical Information

As a police officer I can speak with certainty that call information is as critical to us as our gear. NG911 will allow 911 centers to receive and communicate more useful information than the current system is capable of. Once fully realized, NG911 will also be able to send vital data received by callers to first responders in real time. This can include sending a police officer a picture of a lost child that a parent has sent via their cell phone to the 911 center. Crash data can be shared from telematics like OnStar (such as speed of impact, rollover, and airbag deployment information) which can be vital to the EMS crew responding to an accident.

As citizens, the amount of information that we can send between each other in our day-to-day lives is incredible. We have even have live video feeds on Facebook and real time messaging, yet our 911 system is tied to technology that is decades old. NG911, once fully realized, will allow the 911 centers to receive more dynamic, useful, and reliable information from the citizens that we serve every day.

The State 911 Committee's recommendations and the provisions embodied in SB 400 will move Michigan forward into the next generation for our citizens, as well as our public safety personnel.

**Outline and Key Changes on the State 911 Committee's Legislative Framework for
Next Generation 911 in Substitute Senate Bill 400 as Passed by the Senate**

- 1) The creation of a definition for IP-based 911 service providers.
- 2) Increases the monthly State 911 fee from \$0.19 to \$0.25.
- 3) Adjusts the amount collected by retailers for pre-paid services from 1.92% to 5%. This keeps prepaid contributions equitable with the changing State 911 fee and reflects the change in the average revenue per unit (ARPU) from the \$50 ARPU that was used in 2006 to the 2015 ARPU of \$26.94. The 5% is higher than the 4.19% in the original SB 400 to account for the increased local fees that changed in July 2017 (from a weighted average of \$1.13 to \$1.23). It keeps the rate stable until it can be re-valuated for the sunset date in 2021, and the 5% rate also provides retailers with an even number for the collection.
- 4) Increases the maximum monthly amount a county board of commissioners can levy solely by resolution from \$0.42 to \$0.48. This is a decrease from \$0.55 in the original Senate Bill 400. The maximum has been \$0.42 since 2008.
- 5) Allows a county or service district to change its 911 service provider in the 911 Plan by a board resolution.
- 6) Makes the technical fee consistent across the State of Michigan.
- 7) Provides the Michigan Public Service Commission (MPSC) with standing to take action if 911 fees are not reported, charged, collected or remitted into the fund. It requires the State 911 Committee (SNC) to report these instances and provide the supporting documentation to MPSC for the appropriate action.
- 8) Changes the auditing to require counties, not just Public Safety Answering Points (PSAP), to ascertain that the auditing of 911 funds is conducted. The State 911 Fund audit, by the Office of the Auditor General, is changed from an annual to a biennial cycle.
- 9) Requires a case to be heard at the MPSC that establishes the process for Next Generation 911 (NG911) reimbursements for network costs for providers that meet NENA i3 standards for NG911.
- 10) Changes the distribution of the State 911 fee to reflect the increased revenue and costs for NG911. Also it creates a "spillover" provision requiring any revenue in excess of \$37 million to be directed to NG911. The projected increases are below:

Estimated annual prepaid at 5% =	\$22.4m annually (an increase of \$13.8m)
Estimated annual postpaid at \$0.25 =	\$26.4m annually (an increase of \$6.4m)
Total annual estimate =	\$48.8m annually (total increase of \$20.2m)

The figures below are for the distribution levels at \$37m annually, the remainder above \$37m goes into NG911 fund (see f. below).

- a. New 65% to counties (approx. \$24,050,000)
Now 82.5% to counties (approx. \$23,512,130)
- b. New 5.5% for training (approx. \$2,035,000)
Now 6% for training (approx. \$1,709,973)
- c. New 1.5% to MSP for regional 911 center (approx. \$555,000)
Now 1.88% to MSP for regional 911 center (approx. \$535,791)
- d. New 2.44% to State 911 Office (approx. \$902,800)
Now 1.87% to State 911 Office (approx. \$532,941)
- e. New 25.56% to U-14000 and NG911 fund (approx. \$9,457,200)
Now 7.75% to U-14000 fund for wireless 911 (approx. \$2,208,715)
- f. New "spillover" the estimated funds above \$37m (approx. \$11,900,000)
Total for U-14000 for wireless and NG911 network e + f = \$21,357,200



STATE OF MICHIGAN
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GOVERNOR

BRIAN CALLEY
LT. GOVERNOR

RESOLUTION

MICHIGAN COUNCIL ON LAW ENFORCEMENT AND REINVENTION

SUPPORT FOR NEXT GENERATION 911 LEGISLATION

WHEREAS, protection of the public health and safety is a core government function; and

WHEREAS, a critical component of the public safety infrastructure in Michigan is the 9-1-1 emergency service, through which the public alerts first responders to emergency situations; and

WHEREAS, a secure, current, redundant, and reliable 9-1-1 system is vital to maintaining a safe, fast, and effective emergency response; and

WHEREAS, technological advances such as smart phones, wireless calling, high-speed internet, and text messaging have revolutionized the way we communicate with each other, allowing the public to quickly and accurately send text, digital photographs, video, and accurate location information; and

WHEREAS, 9-1-1 emergency response systems generally have not kept pace with the technological advances, with many communities still using networks that were designed for hard-wired telephones using copper lines; and

WHEREAS, Next Generation 9-1-1, if adopted in Michigan, would allow the public to send greater amounts of data to first responders, including texts and videos, and it would provide improved call transferability, network reliability, and accurate location information for wireless callers; and

WHEREAS, the improvements to the 9-1-1 emergency response system allowed by the adoption of Next Generation 9-1-1 will save lives and promote public health and safety by allowing for more effective responses to emergency situations; and

WHEREAS, Michigan House Bill 4651 and Senate Bill 400 have been introduced in the Michigan Legislature, which would amend Public Act 32 of 1986 entitled the "Emergency Telephone Service Enabling Act"; and

WHEREAS, these bills would amend the funding system for 9-1-1 so that all communication devices that have access to 9-1-1, including prepaid wireless devices, contribute equally to the funding of 9-1-1 operations; and

WHEREAS, these bills provide a stable funding source for the counties to support their migration to Next Generation 9-1-1 and ongoing operational levels of service for 9-1-1 to its residents; and

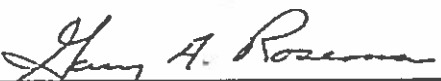
WHEREAS, these bills afford the State and Counties collecting 9-1-1 fees a mechanism for court action should any service providers fail to collect and remit the fees; and

WHEREAS, these bills have a mechanism that provides the necessary checks and balances to ensure revenues generated are used for authorized expenditures for 9-1-1 services; and

WHEREAS, these authorized expenditures are limited to those directly related to receiving and processing 9-1-1 calls and the subsequent dispatching of responders via a public safety radio;

NOW, THEREFORE, be it resolved that on January 6, 2018:

The Council on Law Enforcement and Reinvention (CLEAR) recommends prompt passage of the bills introduced to amend the Emergency 9-1-1 Service Enabling Act to allow for the advancement Next Generation 911 service in Michigan (SB 400 & HB 4561).



GARY A. ROSEMA
CLEAR Chairperson